



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CASCADE TECHNICAL SCIENCES, INC.

Cascade TEK Front Range  
1530 Vista View Drive  
Longmont, CO 80504  
David Bowles Phone 503-648-1818

MECHANICAL

Valid To: July 31, 2014

Certificate Number: 2582.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aircraft components, automotive components, marine components, coatings, packaging and containers, electronics and consumer goods:

**Test:**

Mechanical Vibration:

Includes: Sine  
Random  
Sine-on-Random  
Gunfire

(1 to 3 000) Hz  
3" Stroke  
40 000 lbs Force

Mechanical Shock

Drop Shock:  
600 G  
(2 to 80) mS

Vibe Shock:  
3" Stroke  
30 000 lbs Force

**Test Method(s):**

ASTM D4169;  
BellCore GR-63-CORE 5.4.2, 5.4.3;  
IEC 68, Part 2 Fe, Fd, Fda, Fde;  
JESD22 B103B;  
MIL-STD 810E, F, G, Sec. 514, 519;  
MIL-STD 167-1 (A SHIPS);  
MIL-STD 202G, Sec. 201, 204, 214;  
MIL-STD 883G, H, Sec. 2005, 2007, 2026;  
MIL-STD 1344A, Sec. 2005;  
RTCA DO-160D, E, F, G, Sec. 8.0;  
RTCA DO-227 6/23/1995, Sec. 2.3.1;  
SAE J1455, Sec. 4.10;  
SAE J1211, Sec. 3.2.7;  
UN ST/SG/AC.10/11 Rev.3, Para. 38.3.4.3

IEC 68 Part 2 Ea, Eb;  
JESD22 B104C Conditions A, C, D, E;  
MIL-STD 810E, F, G, Sec. 516;  
MIL-STD 202G, Sec. 213;  
MIL-STD 883G, H, Sec. 2002;  
MIL-STD 1344A, Sec. 2004;  
RTCA DO-160D, E, F, G, Sec. 7.0;  
RTCA DO-227 6/23/1995, Sec. 2.3.2;  
SAE J1455, Sec. 4.11;  
SAE J1211, Sec. 3.2.8;  
UN ST/SG/AC.10/11/Rev.3, Para. 38.3.4.4

**Test:**

Acceleration

r=36"  
250 RPM

Thermal (Temperature):

Includes: High/Low Temperature (-70 to 260) °C  
Thermal Shock (-70 to 150) °C  
Temperature Cycling (-70 to 150) °C

Temperature / Humidity

(10 to 95) % RH

Salt Spray (Salt Fog, Corrosion)

Evaluation: Corrosion Creep-back

Evaluation: Tape Adhesion

**Test Method(s):**

MIL-STD 810E, F, G, Sec. 513;  
MIL STD 202G, Sec. 212;  
MIL-STD 1344A, Sec 2011;  
RTCA DO-160D, E, F, G, Sec. 7.0

BellCore GR-63-CORE, Sec. 5.1;  
IEC 68, Part 2, Sec. A, B;  
JESD 22, Sec. A104C;  
MIL-STD 810E, F, G, Sec.501, 502;  
MIL-STD 810E, F, G, Sec. 503, 520;  
MIL-STD 202G, Sec. 107;  
MIL STD 883G, H, Sec. 1010;  
MIL-STD 1344A, Sec. 1003;  
RTCA DO-160D, E, F, G, Sec. 4.0, 5.0;  
RTCA DO-227 6/23/1995, Sec. 2.3.3;  
SAE J1455, Sec. 4.1;  
SAE J1211, Sec. 3.2.1;  
UN ST/SG/AC 10/11/Rev. 3 Para. 38.3.4.2

BellCore GR-63-CORE 5.1;  
IEC 68, Part 2, Sec. Db;  
MIL-STD 810E, F, G, Sec. 507;  
MIL-STD 202G, Sec. 103, 106;  
MIL-STD 883G, H, Sec. 1004;  
MIL-STD 1344A, Sec. 1002;  
RTCA DO-160D, E, F, G, Sec. 6.0;  
RTCA DO-227 6/23/1995, Sec. 2.3.6;  
SAE J1455, Sec. 4.2;  
SAE J1211, Sec. 3.2.2

ASTM B117, G86, Sec. 1.1.3;  
GM 9540P;  
IEC 68, Part 2, Sec. Kb;  
MIL-STD 810E, F, G, Sec. 509;  
MIL-STD 202G, Sec. 101;  
MIL-STD 883G, H, Sec. 1009;  
MIL-STD 1344A, Sec. 1001;  
NEMA 250, Sec. 5.8, 5.9;  
RTCA DO-160D, E, F, G, Sec. 14.0;  
SAE J1455, Sec. 4.3;  
SAE J2334;  
SAE J1211, Sec. 3.2.3

ASTM D1654

ASTM D3359

**Test:**

Altitude (Barometric Pressure)  
Temperature Altitude

(5 000 to 70 000) ft  
(-70 to 140) °C

Altitude:  
Decompression / Overpressure to 100 psi

Drop Shock:  
Corner, Edgewise, Flat

Dust

Waterproofness / Drip

Icing / Freezing Rain

UV Fluorescent Light Exposure

Protection Against Solid Foreign Objects

Fluid Susceptibility

**Test Method(s):**

MIL-STD 810E, F, G, Sec. 500, 520;  
MIL-STD 202G, Sec. 105;  
MIL-STD 883G, H, Sec. 1001;  
MIL-STD 1344A, Sec. 1011;  
SAE J1455, Sec. 4.9;  
SAE J1211, Sec. 3.2.6;  
UN ST/SG/AC 10/11/Rev. 3 Para. 38.3.4.1

MIL-STD-810E, F, G, Sec. 500.5;  
RTCA DO-160D, E, F, G, Sec. 4.0;  
RTCA DO-227 6/23/1995, Sec. 2.3.4, 2.3.5

ASTM D4169;  
BellCore GR-63-CORE, Sec. 5.3

IEC 60529, Sec. IP5X, IP6X;  
MIL-STD 810F, Sec. 510, Procedure III only

IEC 60529, Sec. IP X3, X4, X5, X6, X7, X8;  
MIL-STD-810E, F, G, Sec. 512;  
NEMA 250, Sec. 5.7;  
RTCA DO-160F, Sec. 10.0;  
SAE J1211, Sec. 3.2.4

MIL-STD-810E, F, G, Sec. 521;  
NEMA 250, Sec. 5.6;  
RTCA DO 160D, E, F, G, Sec. 24, Cat. A & C

ASTM G 154

IEC 60529, Sec. IP X5, X6

MIL-STD-810E, F, G, Sec. 504;  
RTCA DO 160D, E, F, G, Sec. 11



The American Association for Laboratory Accreditation

# *Accredited Laboratory*

A2LA has accredited

## **CASCADE TECHNICAL SCIENCES, INC**

*Longmont, CO*

for technical competence in the field of

### **Mechanical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 23<sup>rd</sup> day of May 2012.



A handwritten signature in black ink, appearing to read "Peter Meyer".

President & CEO  
For the Accreditation Council  
Certificate Number 2582.02  
Valid to July 31, 2014

*For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.*

United States Department of Commerce  
National Institute of Standards and Technology



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## Certificate of Accreditation to ISO/IEC 17025:2005

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NVLAP LAB CODE: 200737-0

**EMC Integrity, Inc.**  
Longmont, CO

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### **ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2013-07-01 through 2014-06-30

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*Effective dates*



A handwritten signature in black ink, appearing to read "W. R. M. L.", positioned above a horizontal line.

*For the National Institute of Standards and Technology*